FIG. 1

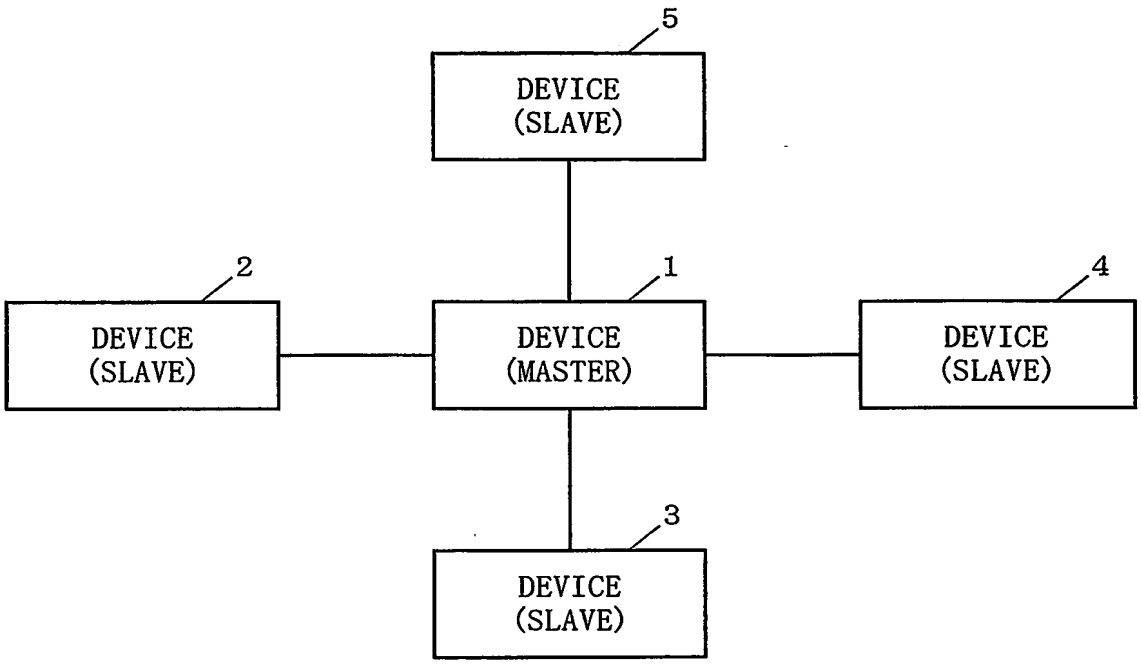
5
DEVICE
(SLAVE)
2
DEVICE
(SLAVE)
1
DEVICE
(MASTER)
4
DEVICE
(SLAVE)
3
DEVICE
(SLAVE)

FIG. 2

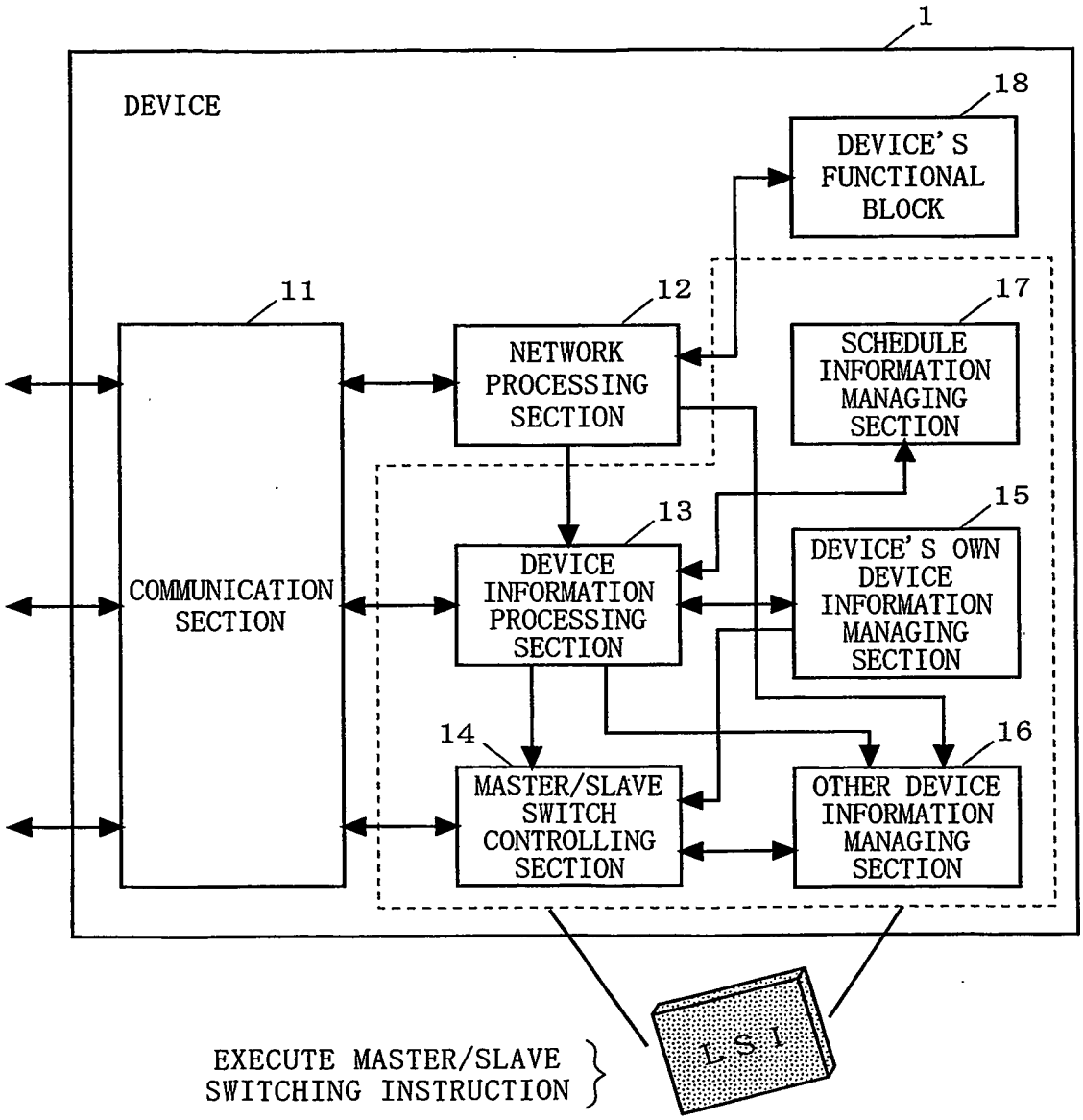
1
DEVICE
18
DEVICE'S FUNCTIONAL BLOCK
11
12
17
NETWORK PROCESSING SECTION
SCHEDULE INFORMATION MANAGING SECTION
13
15
COMMUNICATION SECTION
DEVICE INFORMATION PROCESSING SECTION
DEVICE'S OWN DEVICE INFORMATION MANAGING SECTION
14
16
MASTER/SLAVE SWITCH CONTROLLING SECTION
OTHER DEVICE INFORMATION MANAGING SECTION
LSI
EXECUTE MASTER/SLAVE SWITCHING INSTRUCTION

FIG. 3A

TIME ZONE	MASTER DEVICE CANDIDATES
0：00～7：00	DEVICE 1、DEVICE 2
7：00～11：00	ALL DEVICES
11：00～14：00	DEVICE 3、DEVICE 5
14：00～19：30	DEVICE 1、DEVICE 2、DEVICE 4
19：30～24：00	DEVICE 2、DEVICE 3、DEVICE 5

FIG. 3B

MONTH/DATE	MASTER DEVICE CANDIDATES
2／1～3／31	DEVICE 1、DEVICE 2
4／1～6／20	DEVICE 2、DEVICE 3
6／21～9／15	DEVICE 3、DEVICE 4、DEVICE 5
9／16～11／30	DEVICE 3、DEVICE 4
12／1～1／31	DEVICE 1、DEVICE 2、DEVICE 3

FIG. 4

DEVICE ID	CPU POWER	MASTER FUNCTION	OTHERS	POWER SUPPLY TYPE	REMAINING AMOUNT OF BATTERY	DEVICE STATE
80451234	Penron 500MHz	YES	2003/4/1 @200000 ...	LITHIUM BATTERY	70%	20ms 5mW ...

FIG. 5

DEVICE ID	OPERATION MODE	MASTER FUNCTION	REMAINING AMOUNT OF BATTERY
804512AB	NORMAL	YES	20%
80451256	NORMAL	YES	60%
804512CD	NORMAL	NO	100%
80451123	POWER SAVING	YES	100%

FIG. 6

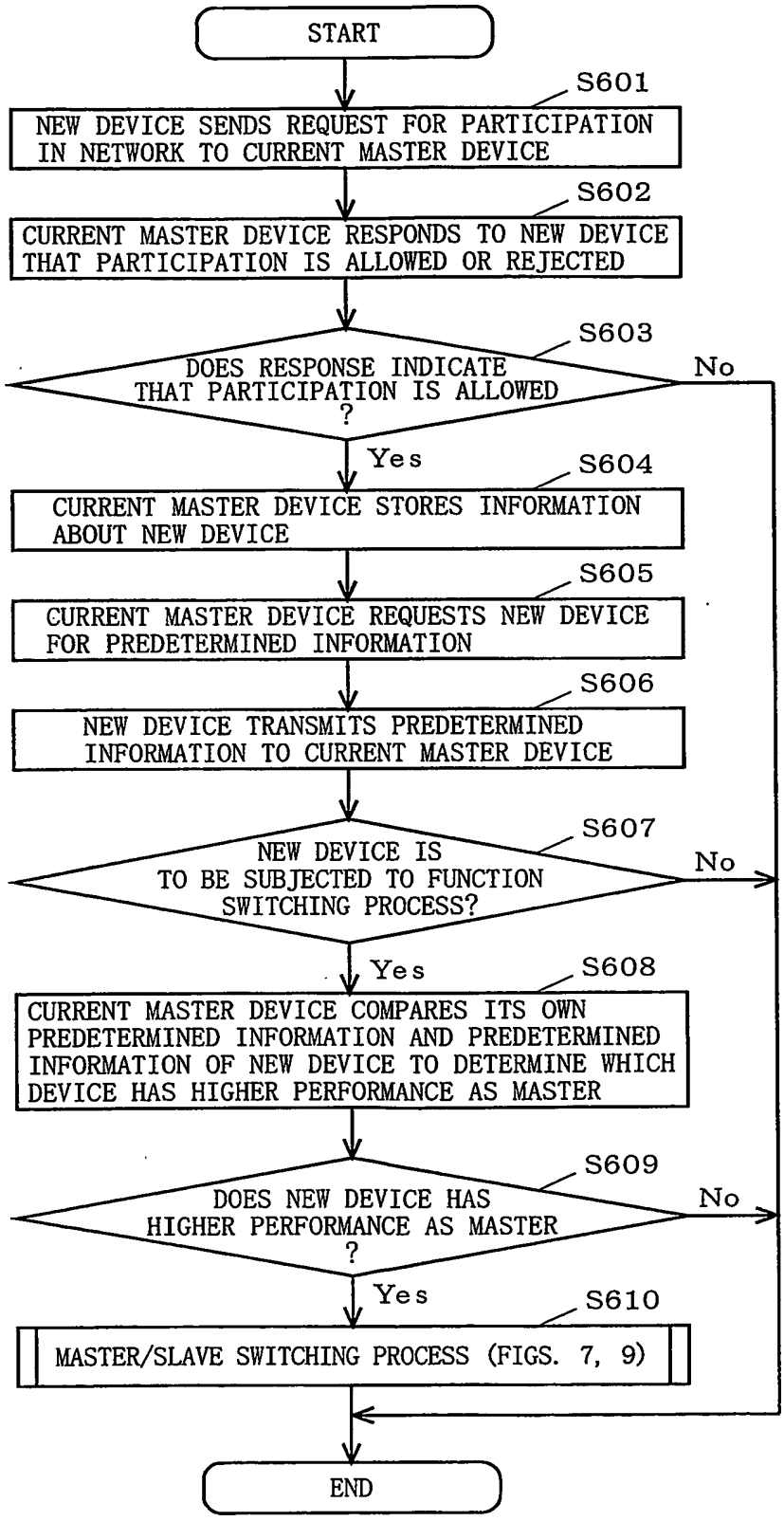
START
S601
NEW DEVICE SENDS REQUEST FOR PARTICIPATION IN NETWORK TO CURRENT MASTER DEVICE
S602
CURRENT MASTER DEVICE RESPONDS TO NEW DEVICE THAT PARTICIPATION IS ALLOWED OR REJECTED
S603
DOES RESPONSE INDICATE THAT PARTICIPATION IS ALLOWED ?
No
Yes
S604
CURRENT MASTER DEVICE STORES INFORMATION ABOUT NEW DEVICE
S605
CURRENT MASTER DEVICE REQUESTS NEW DEVICE FOR PREDETERMINED INFORMATION
S606
NEW DEVICE TRANSMITS PREDETERMINED INFORMATION TO CURRENT MASTER DEVICE
S607
NEW DEVICE IS TO BE SUBJECTED TO FUNCTION SWITCHING PROCESS?
No
Yes
S608
CURRENT MASTER DEVICE COMPARES ITS OWN PREDETERMINED INFORMATION AND PREDETERMINED INFORMATION OF NEW DEVICE TO DETERMINE WHICH DEVICE HAS HIGHER PERFORMANCE AS MASTER
S609
DOES NEW DEVICE HAS HIGHER PERFORMANCE AS MASTER ?
No
Yes
S610
MASTER/SLAVE SWITCHING PROCESS (FIGS. 7, 9)
END

FIG. 7

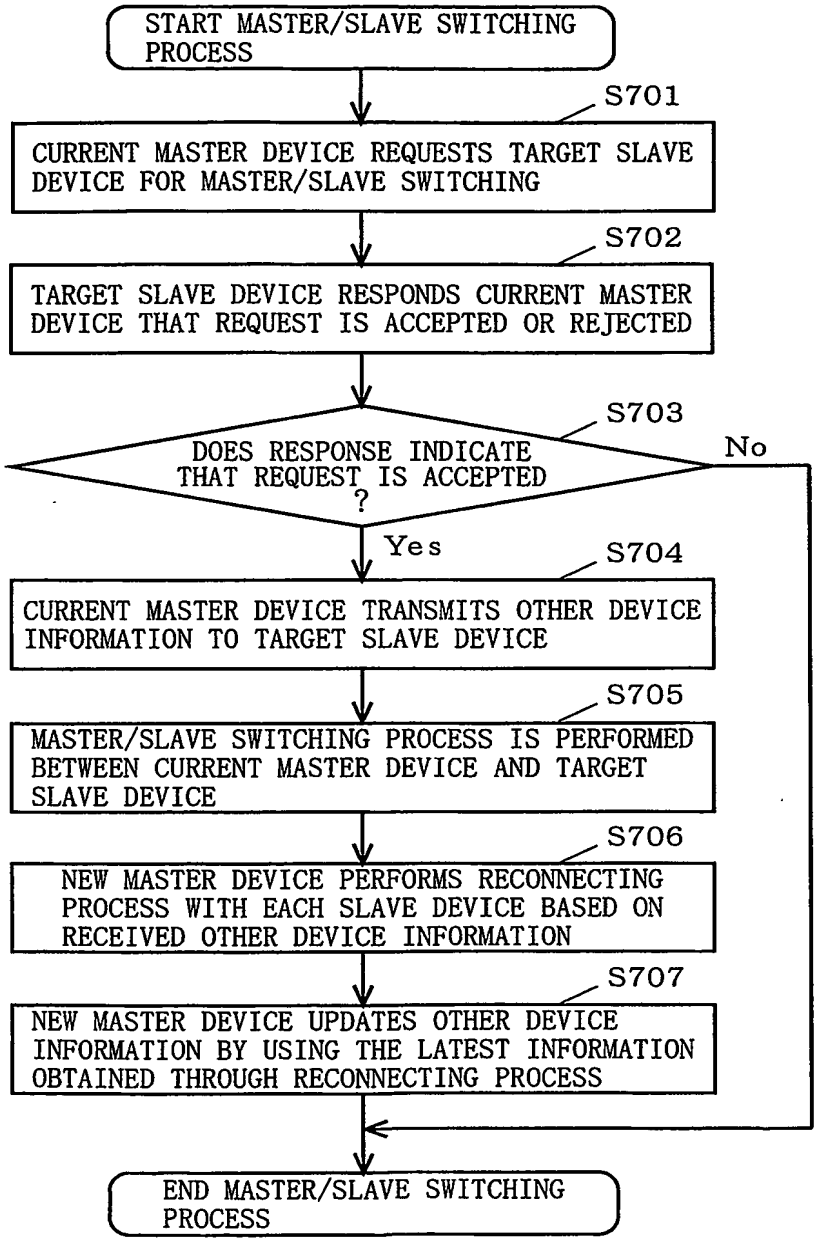
START MASTER/SLAVE SWITCHING PROCESS
S701
CURRENT MASTER DEVICE REQUESTS TARGET SLAVE DEVICE FOR MASTER/SLAVE SWITCHING
S702
TARGET SLAVE DEVICE RESPONDS CURRENT MASTER DEVICE THAT REQUEST IS ACCEPTED OR REJECTED
S703
DOES RESPONSE INDICATE THAT REQUEST IS ACCEPTED ?
No
Yes
S704
CURRENT MASTER DEVICE TRANSMITS OTHER DEVICE INFORMATION TO TARGET SLAVE DEVICE
S705
MASTER/SLAVE SWITCHING PROCESS IS PERFORMED BETWEEN CURRENT MASTER DEVICE AND TARGET SLAVE DEVICE
S706
NEW MASTER DEVICE PERFORMS RECONNECTING PROCESS WITH EACH SLAVE DEVICE BASED ON RECEIVED OTHER DEVICE INFORMATION
S707
NEW MASTER DEVICE UPDATES OTHER DEVICE INFORMATION BY USING THE LATEST INFORMATION OBTAINED THROUGH RECONNECTING PROCESS
END MASTER/SLAVE SWITCHING PROCESS

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FIG. 8

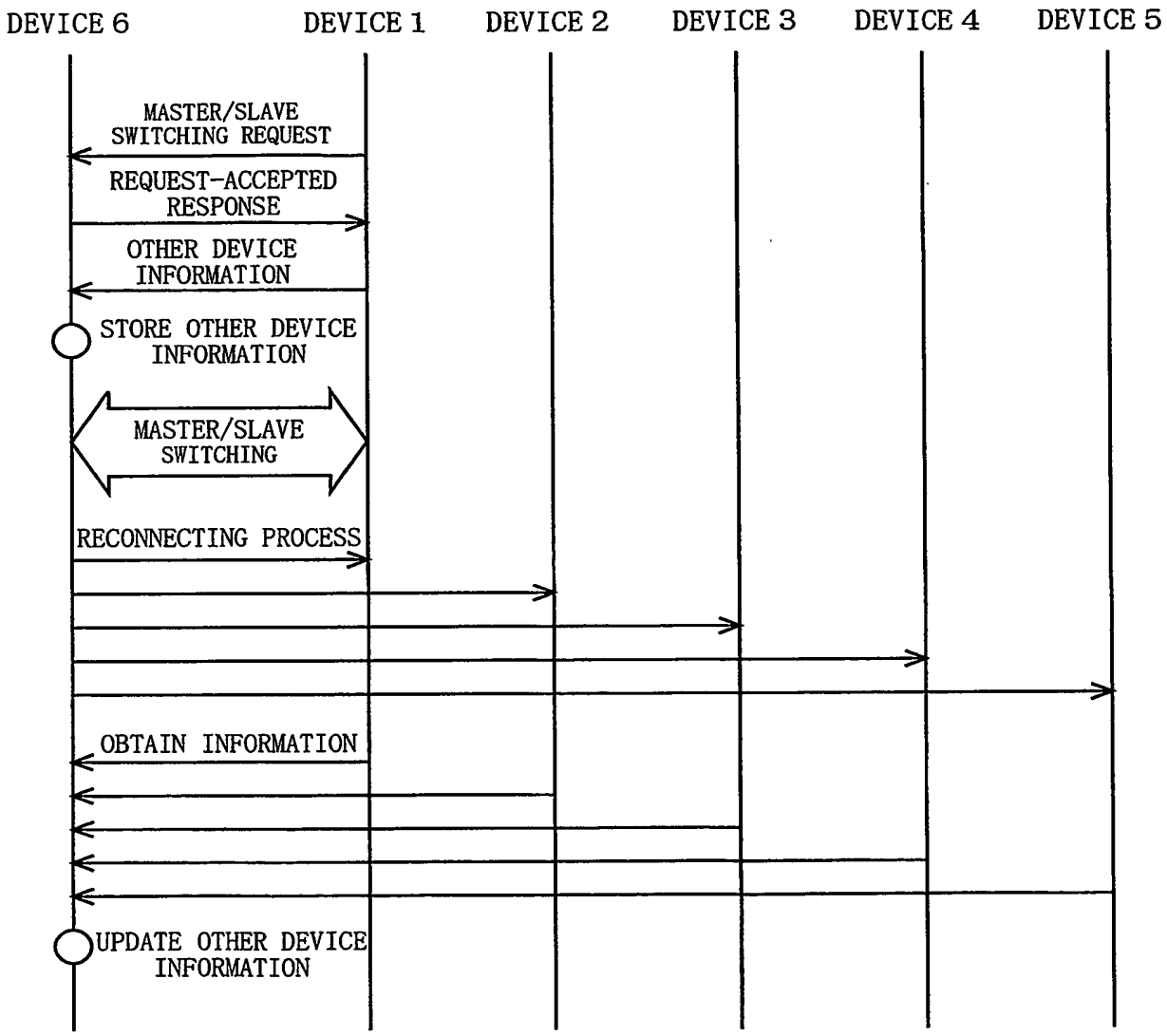


FIG. 9

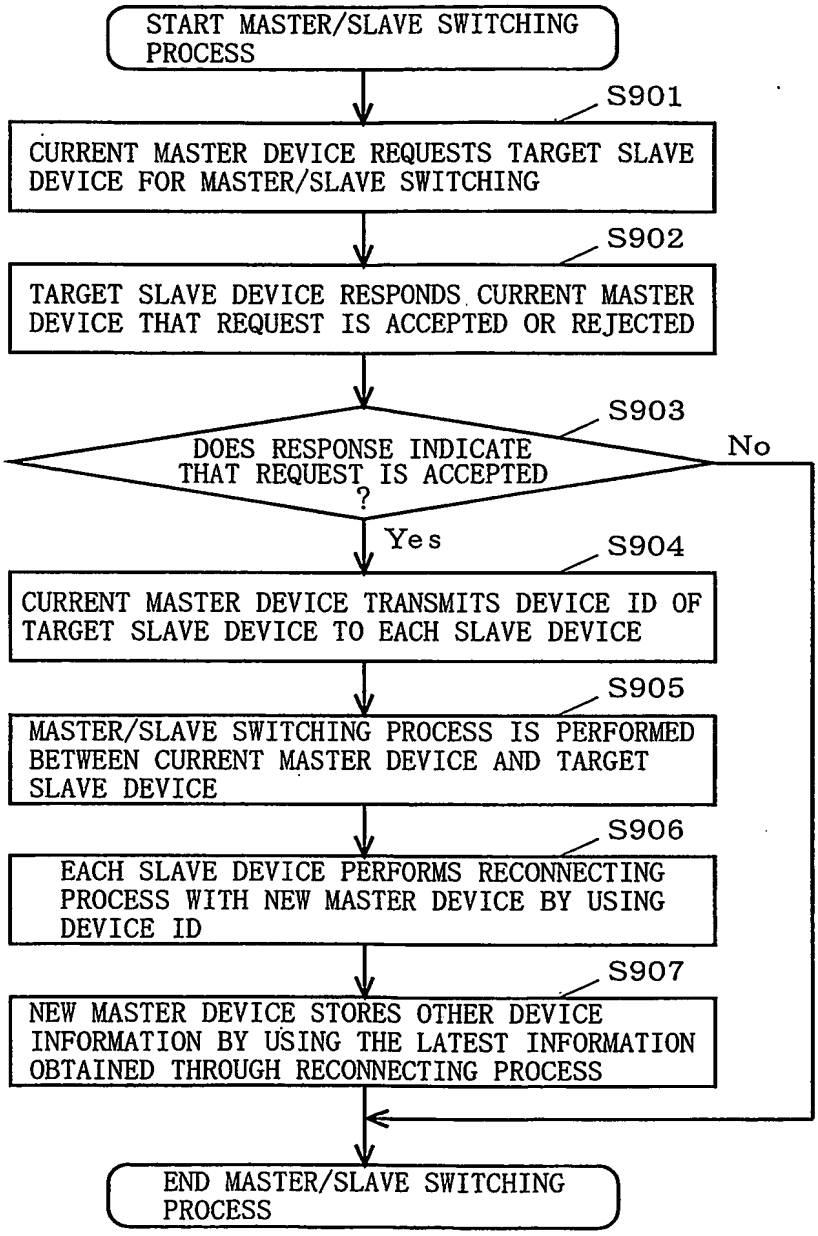

START MASTER/SLAVE SWITCHING PROCESS
S901
CURRENT MASTER DEVICE REQUESTS TARGET SLAVE DEVICE FOR MASTER/SLAVE SWITCHING
S902
TARGET SLAVE DEVICE RESPONDS CURRENT MASTER DEVICE THAT REQUEST IS ACCEPTED OR REJECTED
S903
DOES RESPONSE INDICATE THAT REQUEST IS ACCEPTED ?
No
Yes
S904
CURRENT MASTER DEVICE TRANSMITS DEVICE ID OF TARGET SLAVE DEVICE TO EACH SLAVE DEVICE
S905
MASTER/SLAVE SWITCHING PROCESS IS PERFORMED BETWEEN CURRENT MASTER DEVICE AND TARGET SLAVE DEVICE
S906
EACH SLAVE DEVICE PERFORMS RECONNECTING PROCESS WITH NEW MASTER DEVICE BY USING DEVICE ID
S907
NEW MASTER DEVICE STORES OTHER DEVICE INFORMATION BY USING THE LATEST INFORMATION OBTAINED THROUGH RECONNECTING PROCESS
END MASTER/SLAVE SWITCHING PROCESS

FIG. 10

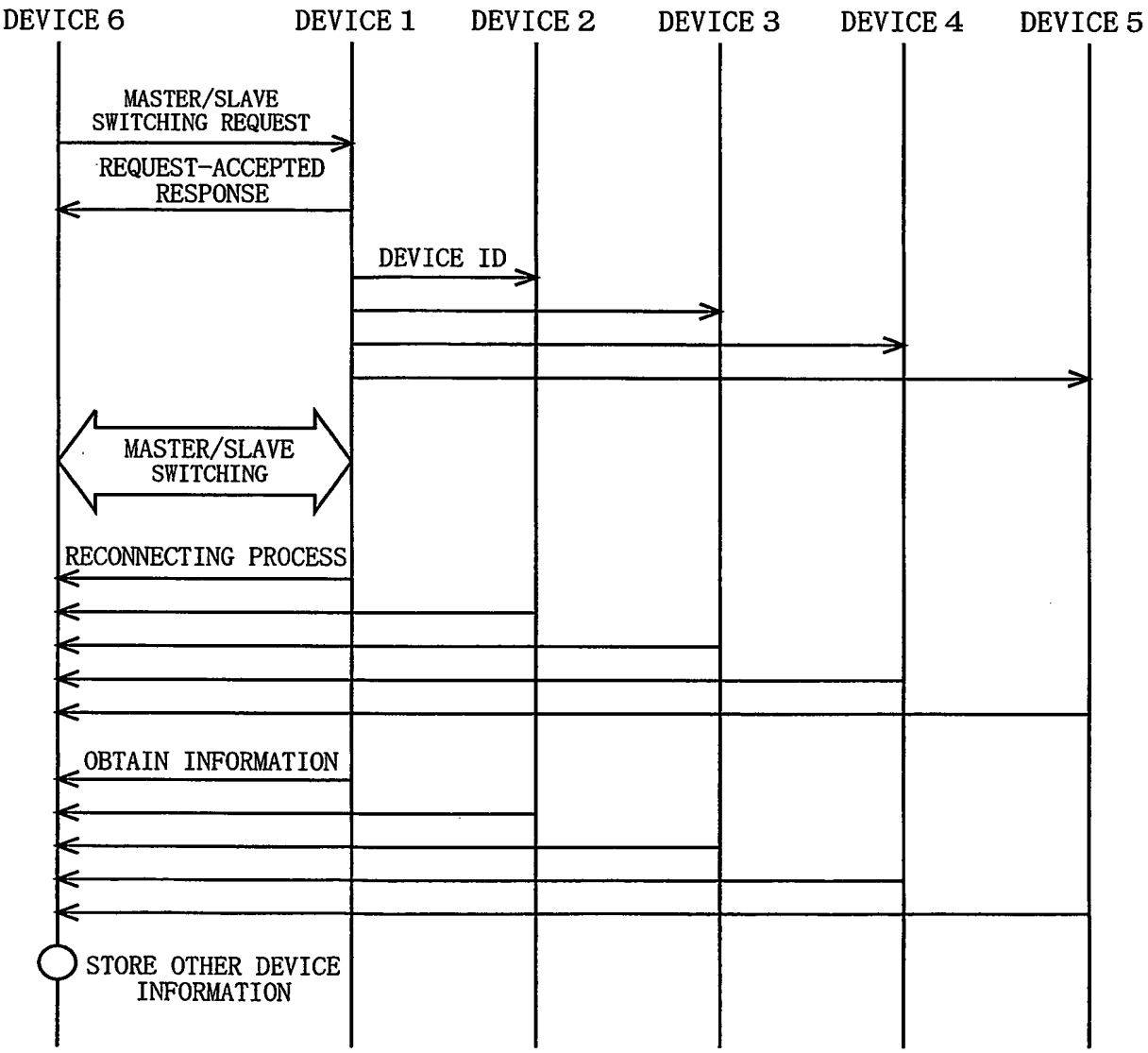

DEVICE 6
DEVICE 1
DEVICE 2
DEVICE 3
DEVICE 4
DEVICE 5
MASTER/SLAVE SWITCHING REQUEST
REQUEST-ACCEPTED RESPONSE
DEVICE ID
MASTER/SLAVE SWITCHING
RECONNECTING PROCESS
OBTAIN INFORMATION
STORE OTHER DEVICE INFORMATION

FIG. 11

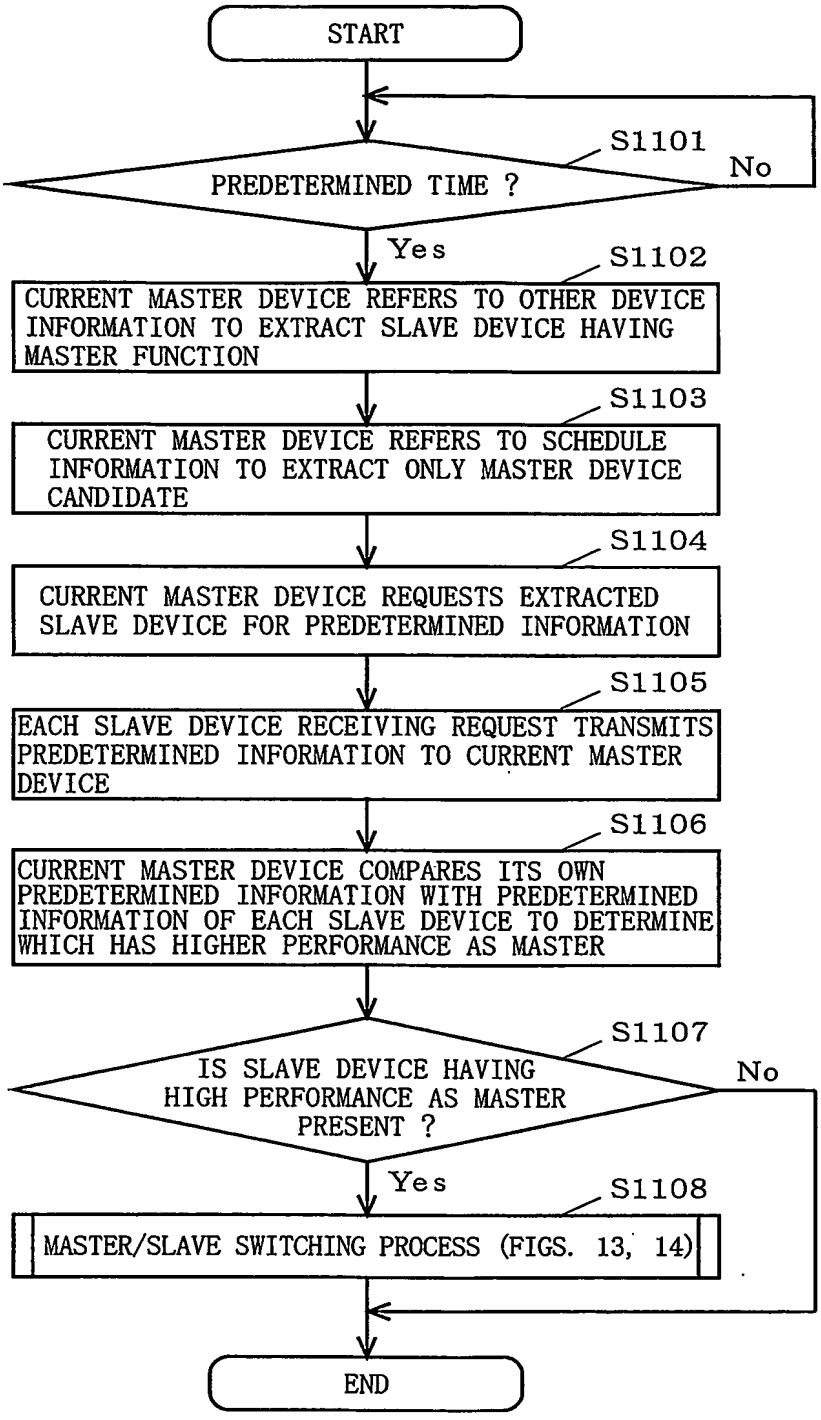

START
S1101
PREDETERMINED TIME ?
No
Yes
S1102
CURRENT MASTER DEVICE REFERS TO OTHER DEVICE INFORMATION TO EXTRACT SLAVE DEVICE HAVING MASTER FUNCTION
S1103
CURRENT MASTER DEVICE REFERS TO SCHEDULE INFORMATION TO EXTRACT ONLY MASTER DEVICE CANDIDATE
S1104
CURRENT MASTER DEVICE REQUESTS EXTRACTED SLAVE DEVICE FOR PREDETERMINED INFORMATION
S1105
EACH SLAVE DEVICE RECEIVING REQUEST TRANSMITS PREDETERMINED INFORMATION TO CURRENT MASTER DEVICE
S1106
CURRENT MASTER DEVICE COMPARES ITS OWN PREDETERMINED INFORMATION WITH PREDETERMINED INFORMATION OF EACH SLAVE DEVICE TO DETERMINE WHICH HAS HIGHER PERFORMANCE AS MASTER
S1107
IS SLAVE DEVICE HAVING HIGH PERFORMANCE AS MASTER PRESENT ?
No
Yes
S1108
MASTER/SLAVE SWITCHING PROCESS (FIGS. 13, 14)
END

FIG. 12A

	MASTER FUNCTION	REMAINING AMOUNT OF BATTERY
DEVICE 1	YES	50%
DEVICE 2	YES	80%
DEVICE 3	YES	60%
DEVICE 4	NO	70%

FIG. 12B

	MASTER FUNCTION	REMAINING AMOUNT OF BATTERY	POWER SUPPLY TYPE
DEVICE 1	YES	50%+10	ALKALINE BATTERY
DEVICE 2	YES	80%+0	MANGANESE BATTERY
DEVICE 3	YES	60%+30	LITHIUM BATTERY
DEVICE 4	NO	70%+10	ALKALINE BATTERY

FIG. 13

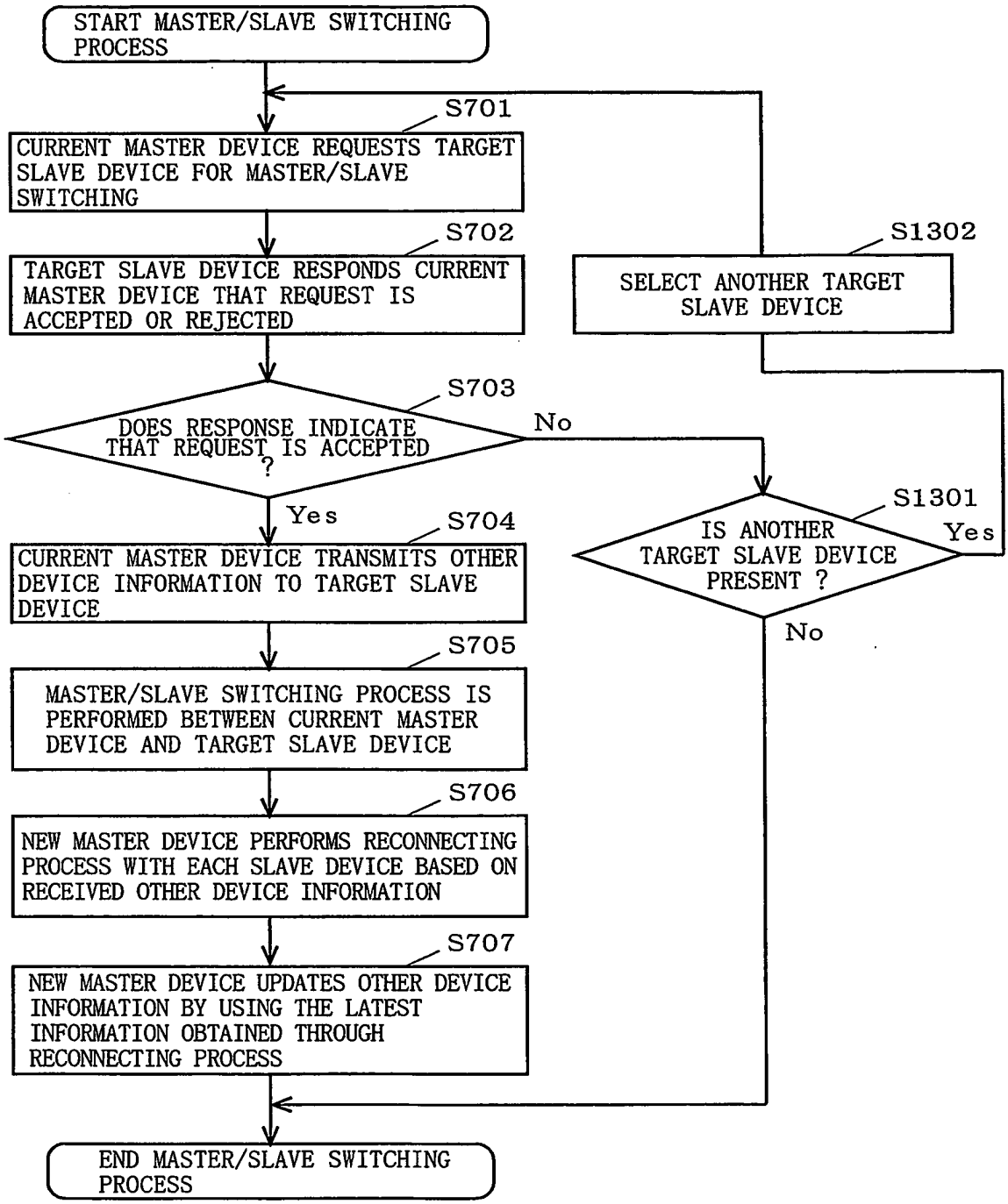

START MASTER/SLAVE SWITCHING PROCESS
S701
CURRENT MASTER DEVICE REQUESTS TARGET SLAVE DEVICE FOR MASTER/SLAVE SWITCHING
S702
TARGET SLAVE DEVICE RESPONDS CURRENT MASTER DEVICE THAT REQUEST IS ACCEPTED OR REJECTED
S703
DOES RESPONSE INDICATE THAT REQUEST IS ACCEPTED ?
No
Yes
S704
CURRENT MASTER DEVICE TRANSMITS OTHER DEVICE INFORMATION TO TARGET SLAVE DEVICE
S705
MASTER/SLAVE SWITCHING PROCESS IS PERFORMED BETWEEN CURRENT MASTER DEVICE AND TARGET SLAVE DEVICE
S706
NEW MASTER DEVICE PERFORMS RECONNECTING PROCESS WITH EACH SLAVE DEVICE BASED ON RECEIVED OTHER DEVICE INFORMATION
S707
NEW MASTER DEVICE UPDATES OTHER DEVICE INFORMATION BY USING THE LATEST INFORMATION OBTAINED THROUGH RECONNECTING PROCESS
END MASTER/SLAVE SWITCHING PROCESS
S1302
SELECT ANOTHER TARGET SLAVE DEVICE
S1301
IS ANOTHER TARGET SLAVE DEVICE PRESENT ?
Yes
No

FIG. 14

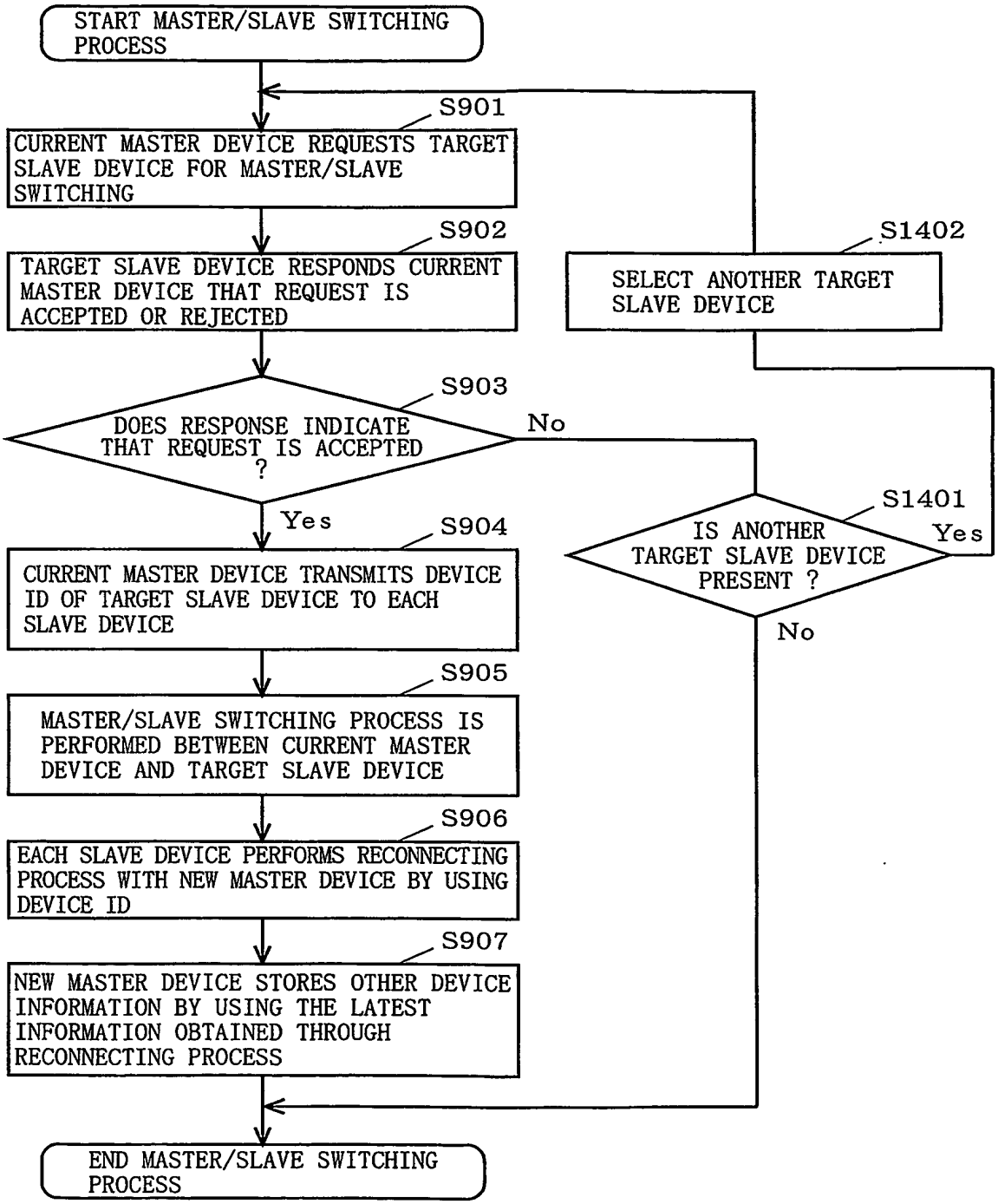
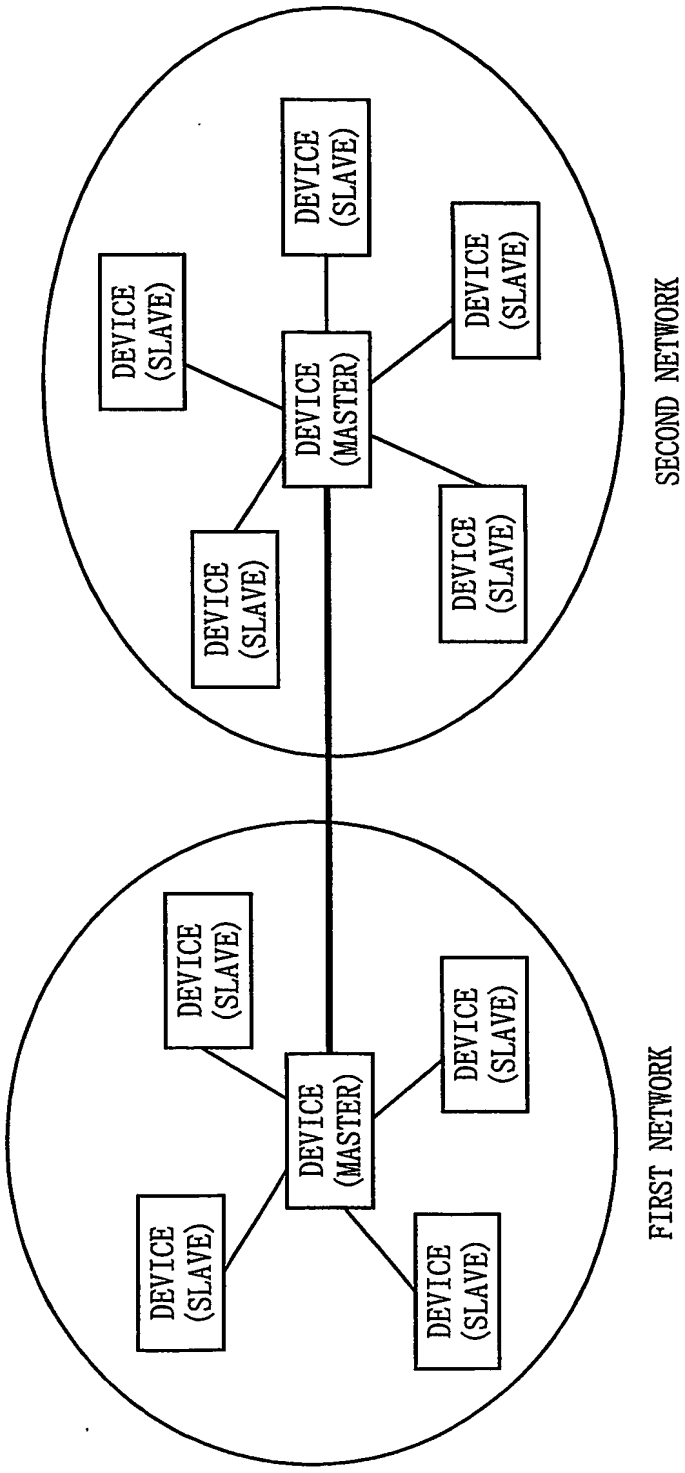

START MASTER/SLAVE SWITCHING PROCESS
S901
CURRENT MASTER DEVICE REQUESTS TARGET SLAVE DEVICE FOR MASTER/SLAVE SWITCHING
S902
TARGET SLAVE DEVICE RESPONDS CURRENT MASTER DEVICE THAT REQUEST IS ACCEPTED OR REJECTED
S903
DOES RESPONSE INDICATE THAT REQUEST IS ACCEPTED ?
No
Yes
S904
CURRENT MASTER DEVICE TRANSMITS DEVICE ID OF TARGET SLAVE DEVICE TO EACH SLAVE DEVICE
S905
MASTER/SLAVE SWITCHING PROCESS IS PERFORMED BETWEEN CURRENT MASTER DEVICE AND TARGET SLAVE DEVICE
S906
EACH SLAVE DEVICE PERFORMS RECONNECTING PROCESS WITH NEW MASTER DEVICE BY USING DEVICE ID
S907
NEW MASTER DEVICE STORES OTHER DEVICE INFORMATION BY USING THE LATEST INFORMATION OBTAINED THROUGH RECONNECTING PROCESS
END MASTER/SLAVE SWITCHING PROCESS
S1402
SELECT ANOTHER TARGET SLAVE DEVICE
S1401
IS ANOTHER TARGET SLAVE DEVICE PRESENT ?
Yes
No

FIG. 15A


DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (MASTER)
DEVICE (SLAVE)
DEVICE (SLAVE)
SECOND NETWORK
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (MASTER)
DEVICE (SLAVE)
DEVICE (SLAVE)
FIRST NETWORK

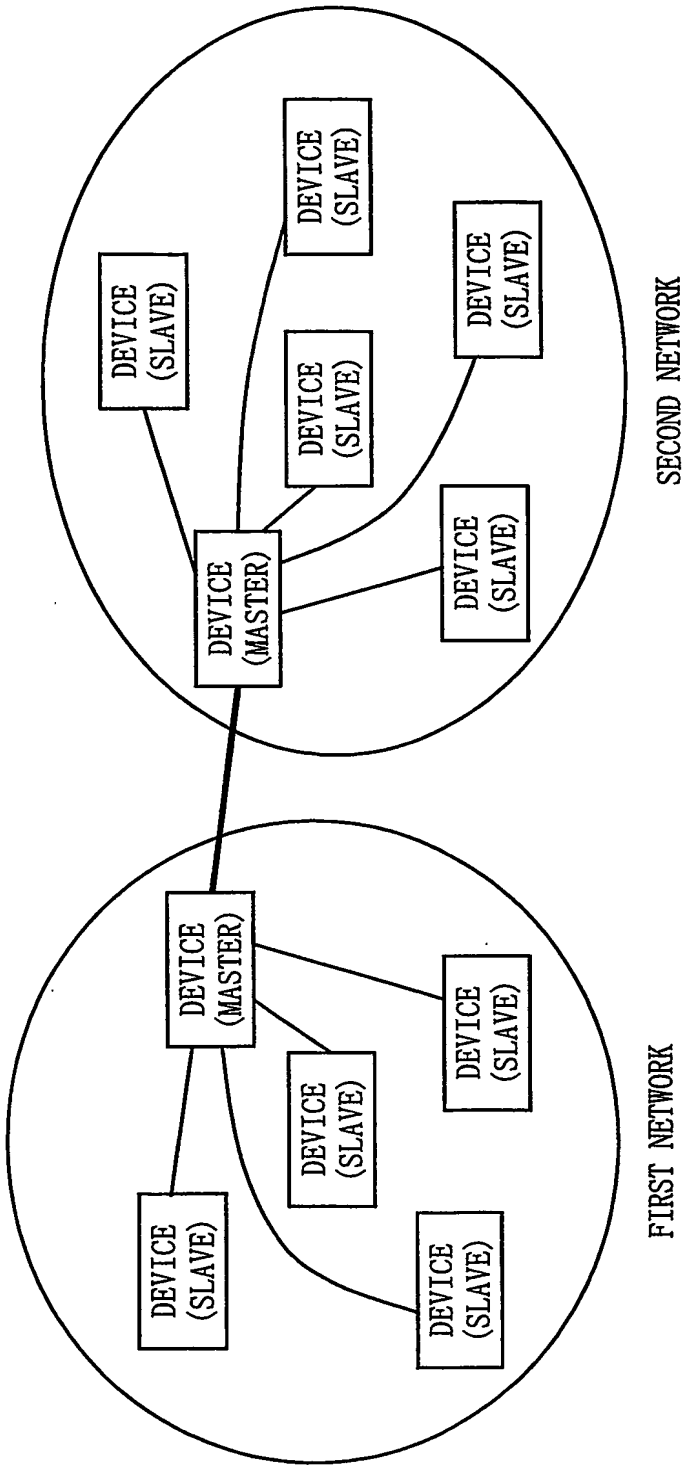

DEVICE (MASTER)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
SECOND NETWORK
DEVICE (MASTER)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
DEVICE (SLAVE)
FIRST NETWORK

FIG. 15B

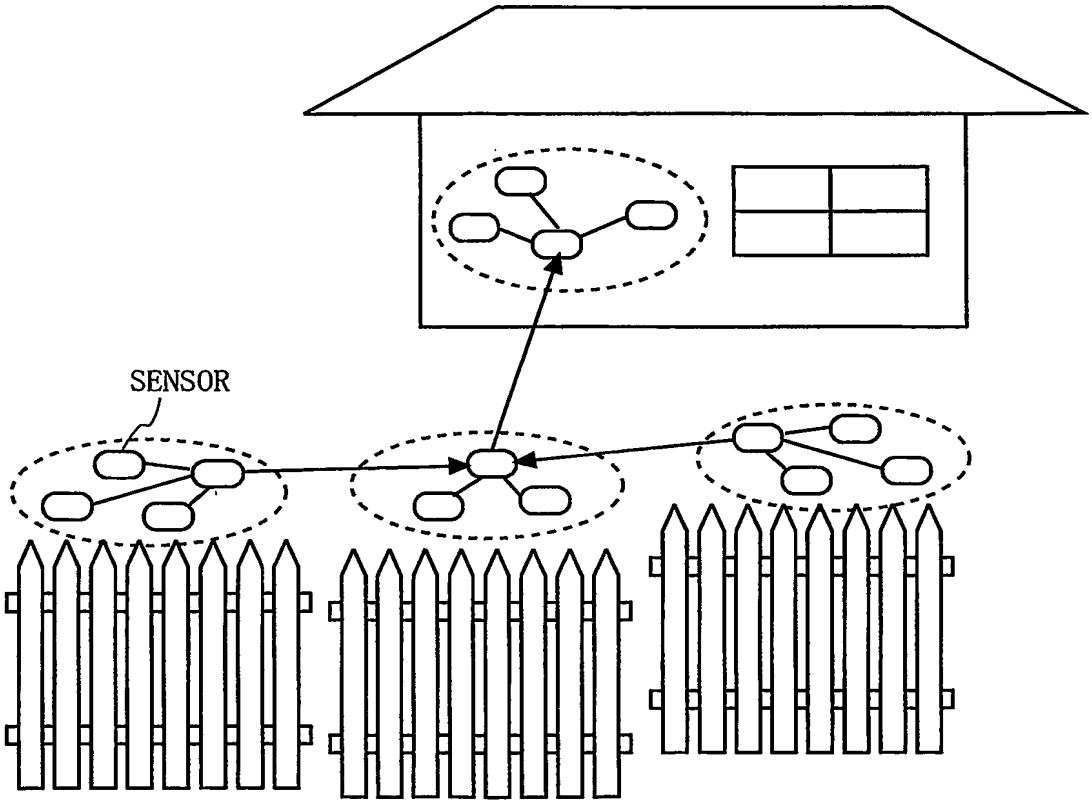



FIG. 16